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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,288	08/30/2000	Hidefumi Yoshida	0610.64705	2568

7590 07/01/2003

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EXAMINER

NGUYEN, CHANH DUY

ART UNIT	PAPER NUMBER
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2675

12

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/651,288

Applicant(s)

YOSHIDA ET AL.

Examiner

Chanh Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 and 60-113 is/are pending in the application.
- 4a) Of the above claim(s) 1-49, 54 and 61-113 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-53, 55-58 and 60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on April 15, 2003 has been entered and considered by examiner. There is two claims numbered 55 due to typographical error, the second claim 55 is treated as claim 56.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 50 and 57 are rejected under 35 U.S.C. 102(e) as being anticipated by Akimoto et al (U.S. Patent No. 6,329,973).

As to claim 50 , Akimoto discloses a liquid crystal display device including a liquid crystal panel in which a plurality of signal lines (45) for transmitting display data

and a plurality of scanning lines (50) for transmitting controlling signals being laid out vertically and horizontally, a pixel electrodes (49) being arranged at intersections of the signal lines (45) and the scanning lines (50) via switching elements (48); see Figure 2. Akimoto teaches the device having a hold control function (i.e. function of still image) in which an image to be displayed being output in one entire frame period (e.g., displayed still image on from a first row and a eighth row), and an impulse control function (a function of moving picture) in which an image to be displayed being output in a predetermined period (i.e. a period from a third row to a sixth row) within one frame period (first row to eighth row); see Figure 3 and see column 3, lines 22-27.

Akimoto clearly teaches the hold control carried out when the displayed image being a still image and the impulse control being carried out when the displayed image being a moving image (see column 3, lines 22-27).

While the device to Akimoto is unlike applicant's disclosed device it reads on applicant's broad claimed language.

As to claim 57, Akimoto clearly teaches the switching elements (48) being polysilicon TFTs (Thin Film Transistors); see column 3, lines 55-56.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 51-52 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Matsuzaki et al (U.S. Patent No. 5,644,332).

As to claim 51, note the discussion of Akimoto above, Akimoto does not mention the holding control being switched to the impulse control in the case where a ratio of the moving image to all the display data exceeding a predetermined value. Matsuzaki teaches that "when the total number of scan lines on the display screen of the FLC D 26 is equal to 1312, if $N1 = 1000$ and the count value of the counter 513 is larger than $N1$, it is detected that the display mode which is executed by the CPU 11 is scrolled display mode" (see column 8, lines 13-17). Thus, Matsuzaki clearly teaches switching to the moving mode (i.e. scrolling display mode) from the still image (i.e. display mode) once the display data exceeds a predetermined value (i.e. 1000). This reads on the claimed limitation " the holding control being switched to the impulse control in the case where a ratio of the moving image to all the display data exceeding a predetermined value" as

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recited in claim. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have provided the teaching of switching from the still image to moving image as taught by Matsuzaki to the moving image device of Akimoto so that a rewriting operation performs at a relatively high speed on the whole display screen (see column 2, lines 30-44 of Matsuzaki).

As to claim 52, the limitation "when the display data makes changes for over a period of two or more frame" is taught by Matsuzaki. For example, Matsuzaki teaches that an image is to be moved if $N1$ is greater than 1000. Thus if $N1 = 2624$ which is twice of scan lines on the screen or two frames, then the image is moving from the display mode. This reads on the claimed limitation.

As to claim 58, this claim is analyzed as previously discussed with respect to claim 52 above since it recites similar limitations as claim 51 does.

7. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Numao (U.S. Patent No. 5,103,328).

As to claim 53, note the discussion of Akimoto above, Akimoto does not mention a shutter facing the liquid crystal display panel. Numao teaches a shutter (21) inserted between a matrix display panel 20 and a light source 19; see Figure 2 and see column 4, lines 25-27. Thus, Numao clearly teaches the shutter (21) faces to liquid crystal panel (20) as broad claimed language. The claim does not required the shutter arranged on the front surface of the liquid crystal. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the

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shutter as taught by Numao to the liquid crystal panel of Akimoto so as to prevent the display from flickering when the image is moving; see column, 2, line 66 to column 3, line 12 of Numao.

8. Claims 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Terasaki (U.S. Patent No. 5,844,540).

As to claims 55-56, note the discussion of Akimoto above, Akimoto does not mention the brightness of the backlight being increased in the impulse control than in the hold control. Terasaki teaches 1) a user can manually adjust the brightness of the display via backlight (see column 10, lines 9-12) 2) the brightness of slow motion reproduction and still reproduction is recognized (see column 29-34) 3) brightness of the video image of the television system (moving image) and character image CG (still image) can be adjusted (see column 28, line 1-39). Thus, Terasaki clearly suggests that the brightness of the moving image and the still image can be either adjusted different from each other through the PWM dimmer section (i.e. backlight can be increased through the PWM in video mode) or adjusted equally. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added the PWM dimmer section as taught by Terasaki to the backlight of Akimoto so that an occurrence of flicker and flutter can be prevented effectively (see column 6, lines 32-40 of Terasaki).

9. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Kamikura et al (U.S. Patent No. 6,266,370).

As to claim 60, note the discussion of Akimoto above, Akimoto does not mention motion compensation. Kamikura teaches motion compensation (e.g., 10, 12) including Discrete Cosine Transform (DCT 12). Kamikura teaches the moving image including vector information indicating image motion (see column 9, lines 27-65). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have added motion compensation section as taught by Kakimura to the moving generating circuit of Akimoto so that the variation of the brightness of the moving image can be compensated (see column 4, lines 11-17 of Kakimura).

Response to Arguments

10. Applicant's arguments filed April 15, 2003 have been fully considered but they are not persuasive.

As a third preliminary matter, the limitation recited in claim 54 directs to Species of Figure 9. That is, page 40, lines 28-30 of the specification describes that "the scanning lines G1-G6 ate respectively activated twice in one frame period (16ms) in which one image is displayed, as shown in Fig. 10" whereas Figure 45 described on pages 73-75 of the specification does not mention any detail the limitation scanning each of the scanning lines twice per frame as recited in claim 54. Therefore, examiner still maintain his position that claim 54 belongs to Species of Figure 9, and it is withdrawn from the consideration. Since claim 54 dependent on based claim 50, it is

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clear that claim 54 will be allowed if independent claim 50 is allowed as request by applicant.

As to claim 50 and 57, on page 9, last paragraph, applicant argues that Akimoto does not disclose or suggest a display device which can both carry out a hold control over a still image, and carry out an impulse control over a moving image. Examiner disagrees with applicant this point of view because column 2, lines 34-37, Akimoto discloses that "the object can be also achieved by providing image data input means which can input at least one moving image data and at least one still image data to an image display part at different rates". Thus Akimoto clearly teaches display device which can both carry out a hold control over a still image, and carry out an impulse control over a moving image. Furthermore, column 3, lines 22-27, Akimoto teaches that "a first output is supplied to a moving image decoder 3 and to a write signal generating circuit 17 via a moving image write line 4" and "a second output is supplied to a still image decoder 5, a still image memory 6, and the write signal generating circuit via a still image write line 7". This clear shows that Akimoto teaches both still image and moving image being generated and displayed on the screen.

On page 10, first paragraph, applicant argues that Akimoto fails to teach or suggest how to carry out a hold control over a still picture display area while carrying out an impulse control over a moving picture display area. First of all, claims do not recite the feature "carry out a hold control over a still picture display area while carrying out an impulse control over a moving picture display area" nor the feature "the still picture display area being influenced by impulse control" nor the feature "dual driving

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circuit" as applicant 's argument. Secondly, Akimoto teaches that "it is understood that the writing operation in the ratio of three writing rows of the moving image to one writing row of the still image is sufficient" (see column 5, lines 41-44) as well as using different circuits (e.g., 3 and 5) to generate the still image and the moving image.

On page 11, last paragraph, applicant argues that "the scrolling display mode" taught by Matsuzaki is not the same as the impulse control function features in the present invention. However, the feature of the invention may differ from Matsuzaki, but the claim is broad enough to read on the reference of Matsuzaki as set forth in the rejection.

As to claim 55 and 56, Applicant argues that "Terasaki fails to teach or suggest that brightness of the backlight is increased in impulse control as recited in claim 55". However, the claim is broad that it can read on switching display mode as taught by Terasaki. That is one mode is moving (video image) different light brightness from still image display mode (character image).

As to claim 60, Applicant argues that "Kamimura fail to teach or suggest that display image is judged to be moving image when compressed image information includes vector information indicating image motion". Examiner disagrees with applicant this point of view since the compressed image is so well-known in the art as taught by Akimoto (see column 1, lines 9-12) and vector information indicated as motion image is taught by Kamimura (i.e. motion vector V_i disclosed on columns 7 and 8).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Steven Saras can be reached at 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



C. Nguyen
June 28, 2003



CHANH NGUYEN
PRIMARY EXAMINER